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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/638,499	08/15/2000	Klaus Linhard	3926.013	1283

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EXAMINER	
PENDLETON, BRIAN T	
ART UNIT	**PAPER NUMBER**
2644	12

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/638,499	LINHARD, KLAUS	
	Examiner	Art Unit	
	Brian T. Pendleton	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-17,19 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *12-17 and 19* is/are allowed.

6)☒ Claim(s) *1,3-10 and 20* is/are rejected.

7)☒ Claim(s) *11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because there still exists numerous examples of different parts being referenced with the same number. For example, reference number "10" describes an attenuator, but that number is used for all of the attenuators in the system. Having a subscript letter or number would greatly clarify the drawings. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: like the objection to the ***Drawings***, the specification mentions parts that have the same reference number making it confusing.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Moyski et al. In figure 1, Moyski discloses a communication system for passenger vehicle comprising a sending point at the front of the car, a receiving point at the back of the car, a first electroacoustic means 15 (microphone), second electroacoustic means 21 (loudspeaker), whereby the signal from the microphone 15 is transmitted to the loudspeaker 21 via an electrical path. Figure 3 discloses the signal processing comprising bandpass filter 27, notch filters 28 and power amplifier 29. Column 3 lines 23-30 state that the power amplifier 29 provides a fixed gain which is adequate to enhance conversation quality which reads on determining a parameter of the acoustic path between the sending point and the receiving point that is capable of being used to compensate losses due to echoes, feedback or ambient noise, whereby the parameter is attenuation of the signal (per claim 3). The loudspeaker 21 generates a compensating acoustic signal.

5. Claims 1, 8, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Finn et al. Finn discloses a cabin communication system comprising phased array 55 of microphones, loudspeaker 75 and echo cancellation apparatus 85. The echo cancellation apparatus 85 determines a parameter of the acoustic path between a sending point and receiving point used to compensate losses due to echoes. Claim 1 is met. As to claim 8, the parameter is echoes between the sending point and receiving point. Per claim 10, the echo cancellation apparatus 85 stores the transfer function between the loudspeaker and microphone, therefore the value of the parameter is stored and used to control the signal level.

6. Claims 1, 9 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Roddy. Roddy discloses a communication system in a vehicle comprising microphones 20, 22, 24, 26, loudspeakers 30, 32, 34, 36, signal processing unit 40 and amplifier 42. The microphones are at various sending points and the loudspeakers at are receiving points for receiving the transmitted signals from microphones. Column 3 lines 25-30 disclose that the signal processing unit 40 provides noise cancellation circuitry. Therefore, the unit 40 determines a parameter of the acoustic path between a sending point and a receiving point due to ambient noise and cancels the noise (interference signal). Claims 1 and 9 are met. Per claim 20, column 3 lines 8-15 disclose that the signal processing unit 40 analyzes the microphone signals and determines a transmission path. Based on the transmission path, one parameter (acoustic echo) is ascertained. The signal level is controlled based on the parameter by muting the loudspeaker closest to the microphone.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moyski. Moyski does not disclose upon exceeding a maximum value of attenuation, the signal level for a given position is amplified. Nevertheless, one of ordinary skill in the art would have realized that the power amplifier 29 was used to amplify signals because the acoustic output from a talker was attenuated to a certain extent. Without undue experimentation, one would have figured out the threshold point where the sound has to be amplified. As a result, that threshold point defined the maximum value of attenuation where signals must be amplified. It would have been obvious to one of ordinary skill in the art at the time of invention to figure out that threshold value and set the power amplifier 29 to amplify based on that threshold value for the purpose of supply an intelligible sound signal to a receiving party in the back of the automobile. Claim 4 is met. Likewise, one of ordinary skill in the art would have known to attenuate a signal level when it is above a threshold that is too loud for a listener for the purpose of not damaging the hearing capabilities of a receiving party. Claim 5 is met.

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roddy in view of Bolin. Roddy does not disclose that the parameter of the acoustical path between the sending point and the receiving point is propagation time. Bolin discloses a method of improving acoustics in a hall comprising microphone 38 and sounding boards 16 which receive the microphone signals for emitting sound waves. Column 3 lines 7-18 suggest that one of

ordinary skill in the art could compensate for the difference in time between the arrival of the electrical sound and the acoustic sound. Therefore, it would have been obvious to one of ordinary skill in the art to also determine the propagation time in the determined acoustical path, per the teachings of Bolin, in the digital signal processor 40 of Roddy for the purpose of reinforcing the acoustic signal with the electrical signal transmitted from the loudspeakers. Claim 6 is met. Regarding claim 7, once the propagation time is determined it was obvious to use a delay to equalize the arrivals of the two signals.

Allowable Subject Matter

10. Claims 12-17 and 19 are allowed.

11. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btp